

Request for permission for oral testimony at Idaho  
Medicaid's P&T Committee meeting on 05-20-2011

Submission # 1

The following request has been:

☐ Approved

☒ Denied

**Gennrich, Jane - Medicaid**

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**From:** Eide, Tamara J. - Medicaid  
**Sent:** Wednesday, April 20, 2011 9:40 AM  
**To:** Gennrich, Jane - Medicaid  
**Subject:** FW: Committee request to present information regarding Prograf  
**Attachments:** Prograf 3 Min\_New Info 1 yr PDL\_Final\_4-18-11.docm

**Tami Eide, Pharm.D., BCPS**

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**From:** Harrison, Gilda [mailto:[Gilda.Harrison@us.astellas.com](mailto:Gilda.Harrison@us.astellas.com)]  
**Sent:** Tuesday, April 19, 2011 9:44 AM  
**To:** Eide, Tamara J. - Medicaid  
**Subject:** Committee request to present information regarding Prograf

Dear Dr. Eide:

I am requesting the opportunity to testify on behalf of Astellas Pharma Global Development at the upcoming Idaho Medicaid P & T Committee Meeting, May 20, 2011 for the immunosuppressant Prograf.

Attached is the document which will be presented, if allowed, by my colleague Lisa Pulkrakek, Sr. Scientific Liaison with Astellas. We would appreciate your review and will be more than happy to provide you with additional information, should you require it. We look forward to hearing from you.

Warm Regards,

*Gilda Harrison, RN, BSN*  
*Scientific Affairs Manager - Immunology/Dermatology*  
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*Linking People, Science and Products*

4/25/2011

Prograf 0.5mg, 1mg & 5mg capsules  
Astellas Pharma  
- Publications within the last twelve months -

Prograf is an immunosuppressive agent indicated for the prophylaxis of organ rejection in patients receiving allogeneic liver, kidney and heart transplants. Tacrolimus is the most widely used calcineurin inhibitor (CNI) on the market, and falls into a category of Narrow Therapeutic Index drugs.<sup>1,2,3,4,5,6,7,8,9</sup> The following summarizes new information within the past twelve months.

Comparative Data: Adult (18-65 yrs) renal allograft recipients received either sirolimus and rATG induction or tacrolimus, with or without rATG, MMF and corticosteroids (Glotz, 2010). In functioning grafts, the SRL group had higher GFR values at Months 1-3, 6, and 9. At Month 12, patient survival and incidence of biopsy-proven rejection were similar between groups. The SRL group had a higher proportion of graft loss at Months 6 and 12, as well as more frequent AEs and premature withdrawals, whereas CMV infections were more frequent with tacrolimus<sup>10</sup>.

A renal transplant comparative study (BKMC 2010) of tacrolimus vs. cyclosporine and azathioprine showed that at seven years, patients using a TAC-based regimen had fewer rejection episodes and improved estimates of graft and patient survival. Fewer CV events, steroid use and bone fractures were seen in the TAC group, but insulin use was higher. Malignancies and lipid profiles were similar<sup>11</sup>.

Generic Tacrolimus:

Several retrospective reports have evaluated switching Prograf to generic tacrolimus (Venkataramanan, 2010; McDevitt, 2010; Momper, 2010; Abdunour, 2010). Overall, there was no significant change in mean blood concentrations or safety concerns in the majority of patients switched. However, a total of 30%-40% of the patients had > 20% change in blood concentrations, and/or dosage titrations due to trough fluctuations. The authors suggested measuring tacrolimus blood levels with careful post conversion monitoring, since dosage adjustments may be required.<sup>12,13,14,15</sup> A biopsy-proven acute rejection episode was reported in 1 of 4 pediatric kidney transplant recipients immediately post-conversion to generic tacrolimus, this one patient was previously on a stable dose of Prograf with no acute rejection prior to switching.<sup>15</sup>

Health Outcomes Data:

A study (Hermenius, 2010) of long-term renal function in pediatric liver transplant recipients on CNIs, mostly Prograf, revealed mild to moderate dysfunction in the first six months, especially in children < 2 years and those with hepatic malignancy or hepatic metabolic disorders at transplant. In over five years of follow-up, the initial post-transplant decline was followed by stabilization of renal function<sup>16</sup>.

An OPTN/UNOS database study (Kuo, 2010) of primary liver transplant recipients showed that 26.6% developed new-onset diabetes mellitus (NODAT). Risk factors included age ( $\geq 50$  vs.  $<50$  years, hazard ratio [HR]=1.241), African American race (HR=1.147), body mass index ( $\geq 25$  vs.  $<25$ , HR=1.186), hepatitis C (HR=1.155), recipient cirrhosis history (HR=1.107), donor age ( $\geq 60$  vs.  $<60$  year, HR=1.152), diabetic donor (HR=1.151), tacrolimus (tacrolimus vs. cyclosporine, HR=1.236), and steroid at discharge (HR=1.594). Living donor transplant (HR=0.628) and induction therapy (HR=0.816) were associated with a decreased risk of NODAT<sup>17</sup>.

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<sup>1</sup> Although Astellas requested in a Citizens Petition that the FDA institute labeling changes requiring physician and patient notification and consultation before a switch is made between formulations of tacrolimus, the FDA declined to do so when it approved the first generic formulation.

## References

- <sup>1</sup> Sabatini S et al. Am J Kid Dis. 1999; 33(2):389-397
- <sup>2</sup> Alloway R et al. Am J Transplant 2003;3(10):1211-1215
- <sup>3</sup> Uber PA, Ross HJ, Zuckermann AO, et al. J Heart Lung Transplant 2009; 28:655-660
- <sup>4</sup> deJonghe H, Naesens M, Kuypers DRJ. Ther Drug Monit 2009;31:416-435
- <sup>5</sup> Wallemacq P, Armstrong VW, Brunet M, et al. Ther Drug Monit 2009;31:139-152
- <sup>6</sup> Kuypers DRJ. Transplant International 2005;18:140-150
- <sup>7</sup> Venkataramanan R, Shaw LM, Sarkozi L, et al. J Clin Pharmacol 2001;41:542-551
- <sup>8</sup> Shaw LM, Holt DW, Keown P, et al. Clinical Therapeutics 1999;21:1632-1652
- <sup>9</sup> Kershner RP, Fitzsimmons WE, Transplantation 1996;920-926
- <sup>10</sup> Glotz D, et. al., Thymoglobulin Induction and Sirolimus versus Tacrolimus in Kidney Transplant Recipients Receiving Mycophenolate Mofetil and Steroids. Transplantation, Volume 89, Number 12, June 2010
- <sup>11</sup> Bernhard Krämer Medical Clinic, Proceedings of the 2010 ATC Meeting, San Diego, CA, May 2-5, 2010, Abstract #LD26
- <sup>12</sup> Venkataramanan R, Fontes P, DeVera M et al., Proceedings of the 2010 ATC Meeting, San Diego, CA, May 2-5, 2010. Abstract #1741.
- <sup>13</sup> McDevitt LM, Sadaka B, Tichy E, Rogers C, et al. Proceedings of the 2010 ATC Meeting, San Diego, CA, May 2-5, 2010. Abstract #459
- <sup>14</sup> Momper J, Fontes P, DeVera ME, Humar A, Shapiro R, & Venkataramanan R. Generic substitution of tacrolimus appears to be safe in the short term in clinically stable liver and kidney transplant patients, but monitoring of tacrolimus blood concentrations in individual patients is essential. Transplantation 2010; 90suppl: 217.
- <sup>15</sup> Abdalnour HA, Araya CE, Dharnidharka VR. Comparison of generic tacrolimus and Prograf drug levels in a pediatric kidney transplant program: Brief communication. Pediatr Transplant 2010;[E-published Aug 31, 2010].
- <sup>16</sup> Herlenius G., Hansson S., Krantz M., Kullberg-Lindh C., & Friman S. (2010). Stable long- term renal function after pediatric liver transplantation. Pediatric Transplantation, 14: 409-416.
- <sup>17</sup> Kuo HT, et al. Risk factors for new-onset diabetes mellitus in adult liver transplant recipients, an analysis of the Organ Procurement and Transplant Network/United Network for Organ Sharing database. Transplantation, 2010; May 15, 89 (9): 1134-40